

* Presently under P.M. R&D contract
** Presently under ASR, Staunton, contract. We believe it would be better to have him under R&D contract for 1972.

PHYSICAL CHEMISTRY OF SMOKE AND FILTRATION - 0105

Staff of nine

Personnel Training: Physical chemistry, kinetics.

Objective: Determine how filters function adequately so that selective filtration systems can be developed. Establish how cigarette smoke and cigarette rod characteristics are related adequately to permit new cigarette products to be designed prior to their fabrication. Determine basic mechanism for filler expansion. Determine feasibility of expanding filler with water.

Program:

- (Goal 3 & 5)
1. Selective filtration
 - a. Gas chromatography + sorption kinetics, filter free-space characterization
 - b. Radiotracer analysis + displacement at filter surface
 - c. Particle size effects + composition variation with particle size
 - (Goal 1, 5 & 6) 2. Smoke - rod mathematical relationships + cigarette modelling
 - (Goal 1) 3. Smoke flavor and tar fractionation + low tar - normal flavor cigarette
 - (Goal 4) 4. Filler expansion - basic mechanics
 5. Expansion of filler with water
- } {Improved ET position
and production upscaling

Items (4) and (5) are covered by one Research Professional, full time, plus a technician on loan from the Development Department.

Project Leader: Dr. H. A. Hartung, Senior Professional
Mr. J. F. Bobbs, Assistant Professional
Dr. J. C. Crump, Research Professional
Dr. S. Debrand, Research Professional
Mr. R. W. Dwyer, Assistant Professional
Mrs. Ruth Hale, Technician
Mr. J. S. Osborne, Research Professional
Mr. D. L. Simpson, Research Professional
Mr. L. L. Stewart, Associate Professional
Dr. D. T. Sawyer, Consultant - \$500
Dr. J. C. Schug, Consultant - \$500

Goals:

1. 10 mg Marlboro
2. Menthol
3. Selective filtration
4. Cost reduction
5. New products
6. Selective delivery by rod

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